



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------------|
| 09/596,442 | 06/19/2000 | Matthew R Perkins | CM03017J | 4005 |
| 24273 7590 11/06/2007 MOTOROLA, INC INTELLECTUAL PROPERTY SECTION LAW DEPT 8000 WEST SUNRISE BLVD FT LAUDERDAL, FL 33322 | | | EXAMINER LY, NGHI H | |
| | | | ART UNIT 2617 | PAPER NUMBER |
| | | | MAIL DATE 11/06/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/596,442

Applicant(s)

MATTHEW PERKINS

Examiner

Nghi H. Ly

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 04/25/07 have been fully considered but they are not persuasive.

On page 5 of applicant's remarks/arguments, applicant states that "Applicant respectfully disagrees in that Ueda teaches re-assignment of channels not the regrouping of radios. There is absolutely no mention of reconfiguring the grouping of radios in Ueda".

In response, Ueda does indeed teach without reducing the number of channels used amongst the groups (see Abstract, see "**rearranges candidate channels.... and assigns candidate channels to groups of mobile stations**"). In this case, "**rearranges**" means "*to change the position of; to arrange differently*" (see DICTIONARY.COM) or "without reducing the number of channels used amongst the groups", or Ueda teaches "rearranging" not "reducing") and Ueda does indeed teach reconfiguring the grouping of radios (column 7, lines 33-47, see "groups of mobile stations" and "colliding", where Ueda teaches dividing and assigning the candidate channels to **groups of mobile stations**, but not removing any mobile station. In this case, "**groups of mobile stations**" means **whole** groups of mobile stations or "without removing radios from the system", or Ueda teaches "dividing" not "removing"). In addition, applicant's attention is directed to the teaching of Ueda in claim 1 below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 7, 9, 10, 13, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (US 5,666,655) in view of Ueda (US 5,606,727).

Regarding claim 1, Ishikawa teaches a method for accessing a radio communication system having a plurality of radios (see column 4, lines 54-57), comprising the steps of: (a) separating the plurality of radios into two or more groups (column 22, lines 18-20, see "dividing"), wherein each group of radios are arranged to communicate over different communication channels (see fig. 1, where two mobile stations 12 communicate with base stations 11 over different communication channels. In addition, see column 7, lines 34-47), (b) gathering a communication statistic on the plurality of radios (Ishikawa, column 22, lines 18-38, see "*dividing the mobile stations into a plurality of groups according to the features of the mobile stations such as distances*." However, column 16, lines 53-56, Ishikawa further discloses that "*the distance of the mobile station 12 from the base station 11 is estimated by measuring the reception level at the base station 11 of the radio wave transmitted from the mobile station 12.*" Or the mobile stations of Ishikawa are divided into groups based on distance, however, the distance based on the reception level. Therefore, the teaching of Ishikawa inherently teaches the mobile stations are divided into groups

Art Unit: 2617

based on **reception level**, and Ishikawa's "**reception level**" reads on applicant's **statistic**. In addition, Applicant's specification page 2, lines 22-25 discloses **statistic** could be signal strength, and Ishikawa's "**reception level**" reads on Applicant's "**signal strength**") and c) grouping of radios based on the communication statistic gathered in step (b) (also see column 22, lines 18-22 and Examiner's answer above).

Ishikawa does not specifically disclose determining whether the two or more groups should be reconfigured based on the gather communication statistics, reconfiguring the grouping or radios based on the communication connection statistics gathered in step (b), wherein the communications connection statistics are used to determine the reconfigured radio groupings and wherein each of the reconfigured radio groupings are arranged to share different respective communication channels.

However, since the distances (see Ishikawa, column 16, lines 53-56, the distance based on reception level). Therefore, mobile stations are divided into groups based on reception level), *the moving directions, and the moving speeds of the mobile station* in the system of Ishikawa varies at time, it would have been obvious to one of the ordinary skill in the art to modify Ishikawa such that the group of mobile units are reconfiguring, so that the groups can be associated with the *changing distances, the moving directions, and the moving speeds of the mobile station*.

Ishikawa does not specifically disclose when a determination is made that the two or more groups should be reconfigured to allow a reduction in collisions on a communication channel without removing radios from the system and without reducing the number of channels used amongst the groups.

Ueda teaches when a determination is made that the two or more groups should be reconfigured to allow a reduction in collisions on a communication channel without removing radios from the system (see column 7, lines 33-47, where Ueda teaches dividing and assigning the candidate channels to **groups of mobile stations**, but not removing any mobile station. In this case, "**groups of mobile stations**" means **whole** groups of mobile stations or "without removing radios from the system", or Ueda teaches "dividing" not "removing") and without reducing the number of channels used amongst the groups (see Abstract, see "**rearranges candidate channels.... and assigns candidate channels to groups of mobile stations**". In this case, "**rearranges**" means "*to change the position of; to arrange differently*" (see DICTIONARY.COM) or "without reducing the number of channels used amongst the groups", or Ueda teaches "rearranging" not "reducing").

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Ueda into the system of Ishikawa so that channel are prevented from colliding with each other (see Ueda, column 7, lines 33-47).

Regarding claim 2, Ishikawa further teaches comprising the step of: (d) allowing access to the radio communication system based on the grouping of the radios (see column 22, lines 18-22).

Regarding claim 6, Ishikawa further teaches the communication statistic gathered in step (b) comprises the average received signal strength of each of the plurality of radios (Ishikawa, column 22, lines 18-38, see "*dividing the mobile stations into a*

Art Unit: 2617

plurality of groups according to the features of the mobile stations such as distances."

However, column 16, lines 53-56, Ishikawa further discloses that "*the distance of the mobile station 12 from the base station 11 is estimated by measuring the reception level at the base station 11 of the radio wave transmitted from the mobile station 12.*" Or the mobile stations of Ishikawa are divided into groups based on distance, however, the distance based on the reception level. Therefore, the teaching of Ishikawa inherently teaches the mobile stations are divided into groups based on **reception level**, and Ishikawa's "**reception level**" reads on applicant's **statistic**. In addition, Applicant's specification page 2, lines 22-25 discloses "statistic" could be signal strength, and Ishikawa's "**reception level**" reads on Applicant's "**signal strength**").

Regarding claim 7, Ishikawa teaches steps b and d. Ishikawa inherently teaches repeating steps (b) through (d) periodically (see rejection of claim 1 above). Since *the distances* (see column 16, lines 53-56, the distance based on reception level. Therefore, mobile stations are divided into groups based on reception level), *the moving directions, and the moving speeds of the mobile station* in the in system of Ishikawa varies at time, it would have been obvious to one of the ordinary skill in the art to modify Ishikawa such that repeating steps (b) through (d) periodically, so that the groups can be associated with the *changing distances, the moving directions, and the moving speeds of the mobile station* (see column 22, lines 18-22).

Regarding claim 9, Ishikawa further teaches the step (b) is performed by a radio communication system controller (see column 7, lines 48-55).

Regarding claim 10, Ishikawa further teaches a step (b) is performed by each of the plurality of radios (see Ishikawa, FIG.1, mobile station 12).

Regarding claim 13, Ishikawa teaches steps (b) and (c) are repeated periodically. Ishikawa inherently teaches repeating steps (b) through (d) periodically (see rejection of claim 1 above). Since *the distances, the moving directions, and the moving speeds of the mobile station* in the in system of Ishikawa varies at time, it would have been obvious to one of the ordinary skill in the art to modify Ishikawa such that repeating steps (b) through (d) periodically, so that the groups can be associated with the *changing distances, the moving directions, and the moving speeds of the mobile station* (see column 22 lines 18-22).

Regarding claim 14, Ishikawa further teaches the communication statistic in step (b) is gathered by a central radio communication system resource (see column 1, lines 22-32).

Regarding claim 16, Ishikawa further teaches the steps (b) and (c) are performed at predetermined periods of time (see column 4, lines 33-53).

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (US 5,666,655) in view of Ueda (US 5,606,727) and further in view of Muller (US 6,438,375).

Regarding claim 8, the combination of Ishikawa and Ueda teaches a method as defined in claim 1. The combination of Ishikawa and Ueda does not specifically disclose the two or more groups of radios established in step (a) can access the radio

Art Unit: 2617

communication system at specified times which are different for each of the two or more groups.

Muller teaches the two or more groups of radios established in step (a) can access the radio communication system at specified times which are different for each of the two or more groups (see column 3, lines 10-14).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Muller into the system of Ishikawa and Ueda in order to provide a method and apparatus for efficiently communicating different types of control message between a radio network and a mobile radio station (see Muller, column 1, lines 5-10).

5. Claim 3-5, 12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (US 5,666,655) in view of Ueda (US 5,606,727) and further in view of Official notice.

Regarding claims 3-5 and 17, the combination of Ishikawa and Ueda teaches the communication statistic gathered in step (b) comprises the changing distances, the moving directions, and the moving speeds of the mobile station by each of the plurality of radios (see Ishikawa, column 22, lines 18-22) and reception level (see Ishikawa, column 16, lines 53-56). The combination of Ishikawa and Ueda does not specifically disclose communication statistic gathered in step (b) comprises the average channel usage, or channel accesses per unit time, or priority or talk-time by each of the plurality of radios. However, those skilled in the art would have appreciated that the system of

Art Unit: 2617

Ishikawa also be used with other statistic such as average channel usage, or channel accesses per unit time, or priority or talk-time by each of the plurality of radios.

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Ishikawa and Ueda, so that the communication statistic comprises more features.

Regarding claim 12, the combination of Ishikawa and Ueda teaches a method as defined in claim 1. The combination of Ishikawa and Ueda does not specifically disclose the radio communication system comprises a time division multiple access radio communication system. However, the Examiner takes Official Notice that such time division multiple access radio communication system as recited in the claim are known in the art in order to save radio spectrum and permit many simultaneous conversations over a finite frequency.

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the teaching of Ishikawa and Ueda for providing a method as claimed, in order to save radio spectrum and permit many simultaneous conversations over a finite frequency.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (US 5,666,655) in view of Ueda (US 5,606,727) and further in view of Raith (US 6,385,461).

Regarding claim 15, the combination of Ishikawa and Ueda teaches a method as defined in claim 1. The combination of Ishikawa and Ueda does not specifically

Art Unit: 2617

disclose the communication statistic in step (b) is gathered by each of the plurality of radios.

Raith (US 6,385,461) teaches the communication statistic in step (b) is gathered by each of the plurality of radios (see column 2 lines 33-36 and lines 62-65).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to provide the teaching of Raith into the system of Ishikawa and Ueda in order to individual users with the opportunity to joint group calls at any time (see Raith (US 6,385,461), column 2 lines 25-27).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2617

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 9:30am-8:00pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nghi H. Ly

